

alone of local transport the entire population of Chicago to New York in less than two weeks.

All the railroads between New York and Chicago, operating together, could transport 100,000 troops in less than a week. New York in at least two days, and I think in even less time if we had authority to bundle our trains as we liked. Under war conditions, the New York city and suburbs in northern New York city on the Pacific coast in the north with no trouble at all.

If the railroads of this country cannot carry 100,000 persons from coast to coast in less than a month, it is not a wonder that I'll take a contract to cut the railroads out from their feet on any old war they want to the railroads are ready to handle the nation and supplies the nation can handle them.

All laws, such as those about watering stock, block signs, car demurrage, mixed trains, hours of service, in fact, a lot of things that are not necessary to do to play, the mess could be thrashed out later by the Interstate Commerce Commission, the courts and Congress, but the does not touch the railroad end of the matter. To move troops, powder, horses and rations, and we'd move 'em!

"When a train was once made up whether it was to go to New York, Boston, Chicago or San Francisco, it was not to stop except for change engines until it reached the Pacific coast.

"In the case of this, probably as fast as we could get the trains running the average running time could easily be twenty minutes an hour. We might soon increase it to thirty miles an hour on some of the best pieces of road. West of the Missouri River, from ten to fifteen miles an hour, although we might possibly work it up to even twenty miles an hour, but this is unlikely.

However, one is safe in saying that the troop trains would average fifteen or twenty miles an hour from starting point to the coast. Troops are moved best in mixed trains, say five passenger coaches and five freight cars, with a locomotive to travel with heavy engines, or, say, about five passenger and five freight for faster running behind lighter engines.

On a ten car train we could put about six or eight cars of battery of six to slow down and run it equipment to a train. Cavalry would run of course more freight and less passenger to the train, because the horses would be in the freight cars. Cavalry might carry one company of cavalry to a train, that is 100 men and horses and their rations, for two weeks.

Perhaps the same might be said for artillery and the battery of six field gun with the men, horses, a ammunition rations. We might even add a water tank if need be. The thousands of officers would do the work. Might be a little question but it would be possible for a few days and would not necessarily be unhealthy. War is not a picnic, remember, and water is water at times.

The Illinois Central, the Great Northern and the surface cars of Chicago collect and deliver over 1,500,000 people between the city proper and the World Fair grounds in less than two weeks. The cars are nearly eighteen years old. Transportation facilities have increased greatly in the last two decades and so great are the railroad facilities of this country that the government could raise and equip could be moved in any direction and hardly interfere with commercial business."

toothless Saws for Cutting Steel.

From the Youth's Companion.

The employment of high speed revolving disks of mild steel for cutting hard steel and tool steel has excited the astonishment of the uninitiated. The disks are preferably made of a plate quality and are about a quarter of an inch thick. They revolve with a peripheral speed of as much as 20,000 feet per minute. One of these disks will cut a piece of tool steel of a diameter of hard steel 12 by 6 inches, in 15 seconds.

It appears to get by local fusion. The very high speed causes thousands of inches of surface to impinge in rapid succession on the metal underneath, so that the temperature of the surface of the work rises very high, although the disk, owing to its large surface area, remains relatively cool. All this is done so quickly that the heat has no time to spread in the metal, and the sides of the cut portion are only a little warmed.